USSPACECOM VISION FOR 2020

INTRODUCTION

Navies and armies have evolved to protect national interests and investments. As sea commerce advanced in the 18th and 19th Centuries, nations formed navies to project power and to protect and enhance their commercial interests. Similarly, during the westward expansion of the continental United States, military outposts and cavalry emerged to protect our wagon trains, settlements and railroads.

Air power emerged differently because it evolved to support land and sea operations (e.g., communications and reconnaissance), not to protect national economic interests. Over time, however, air power became a separate instrument of warfare, protecting national interests and ensuring freedom of action in the air.

Eventually, space power will parallel both models. For several decades, it has mainly supported land, sea, and air operations—strategically and operationally. Early in the 21st Century, space will become another medium of warfare. As the United States relies more on space-based capabilities, space forces may protect the country's commercial assets in this medium.

Space power will help overcome the widening gap between increasing military commitments and diminishing resources. In fact, space power is vital to attaining the operational concepts of *Joint Vision 2010.* These operational concepts are described below, along with the contributions from space capabilities (Figure 2-1).

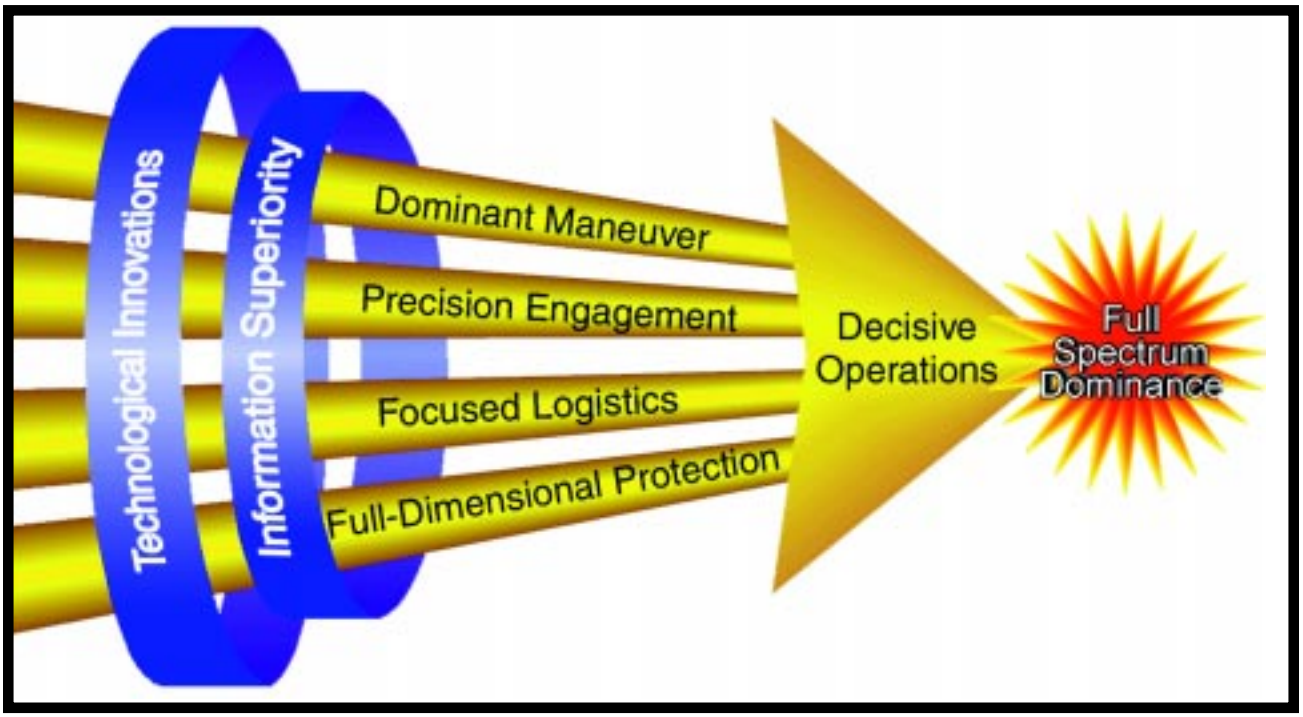

Figure 2-1 ***Joint Vision 2010***

SUPPORT OF *JOINT VISION 2010*

"*Joint Vision 2010* provides an operationally-based template for the evolution of the Armed Forces for a challenging and uncertain future. It must become a benchmark for Service and Unified Command Visions."

General John M. Shalikashvili, Chairman of the Joint Chiefs of Staff, 1996

Dominant Maneuver

...the multidimensional application of information, engagement, and mobility capabilities to position and employ widely dispersed joint air, sea, land and space forces to accomplish assigned operational tasks.

Common Characteristics: Agility, versatility, mobility, lethality, survivability.

Additional Characteristics:

- The ability to mass effects and forces rapidly from widely dispersed locations.
- Strategically and operationally mobile forces, "ready on arrival."
- Accurate, effective and sustainable delivery systems for direct and indirect fires and other effects, both lethal and nonlethal, from short and long ranges.
- Highly lethal, mobile, agile, and versatile organizations; adaptable maneuver units tailorable across the range of military operations.
- Precise, immediate combat/operational assessment capability.

Space Support to Dominant Maneuver

Military satellite communications are key to achieving Dominant Maneuver on the future battlefield. It is critical to synchronize the movements and effects of widely dispersed and highly mobile units. Coupled with satellite navigation, commanders maintain precise data on the position and status of friendly forces and the enemy–fundamental to battlespace awareness. Space-based surveillance, earth resource monitoring and missile warning capabilities enable warfighters to complete the common operating picture of the battlefield. Information products are disseminated directly to the point of need, even to the foxhole, bridge or cockpit. Products could be "pushed" or "pulled" depending on warfighter needs. USSPACECOM will protect US and allied satellite systems and be postured to conduct counterspace operations when directed to prevent enemy use of friendly, hostile, or third party systems.

Precision Engagement

...will consist of a system of systems that enables our forces to locate the objective or target, provide responsive command and control, generate the desired effect, assess our level of success, and retain the flexibil-

Common Characteristics: Responsive; accurate; agile and lethal platforms.

Additional Characteristics:

- The ability to engage targets more responsively and accurately from increasingly longer ranges.
- The ability for responsive, multidimensional engagement that matches capabilities to desired effects across the range of military operations.
- The ability to provide precise, immediate combat/operational assessment and to rapidly reengage if required.
- The ability to minimize collateral damage through precise targeting and accurate, effective delivery systems and munitions.
- A flexible, time-critical targeting architecture that includes rapid identification and continuous, real-time, sensor-to-shooter links.

Space Support to Precision Engagement

Space-based surveillance assets will provide near real time threat detection, targeting data, and damage assessment, closing the loop between the sensor and shooter. Satellite navigation systems will allow for greater positional and timing precision in a new generation of "fire and forget" weapon systems, while denying this advantage to our adversaries. Global military satellite communications provide the backbone of responsive command and control. Should future national policy support applying force from space, USCINCSPACE will be prepared to carry out NCA directives, neutralizing critical targets beyond the range of theater assets and eliminating threats long before they are in a position to harm allied forces.

The multilayered offensive and defensive capability to better protect our forces and facilities at all levels from adversary attacks while maintaining freedom of action during deployment, maneuver and engagement.

Common Characteristics: Freedom of action; battlespace awareness; integrated, in-depth theater and missile defense.

Additional Characteristics:

- Identify and track friendly vulnerabilities–potential targets for an adversary.
- Discriminate precisely between friendly and enemy elements at all levels to prevent fratricide. This is necessary to enhance low-end operations like humanitarian assistance to precisely differentiate NGOs, PVOs, friendly factions, unfriendly factions, and coalition members.
- Reduce risk and limit non-battle casualties through a wide range of other inherent measures, such as

Full-Dimensional Protection

Space Support to Full-Dimensional Protection

Space-based surveillance and missile warning assets provide initial detection of theater and intercontinental ballistic missile, and ultimately cruise missiles and aircraft. Initial tracking information will be seamlessly integrated into defensive missile defense systems on the ground, at sea, in the air and in space. Space-based surveillance, navigation, communications, warning and weather information is essential to battlespace awareness and force protection. Space superiority is as critical to freedom of action as is land, sea and air superiority. Advances in space surveillance, satellite protection measures, satellite attack warning, and

...the fusion of information, logistics and transportation technologies to provide rapid crisis response, to track and shift assets while en route, and to deliver tailored logistics packages and sustainment directly at the strategic, operational and tactical level of operations.

Common Characteristics: Responsive; agile; readily deployable; anticipatory; networked planners, operators and logisticians; modular, tailored packages.

Additional Characteristics:

- Agile organizations with advanced capabilities that allow for a smaller, in-theater logistics "footprint" and reduced logistics "tails" at all echelons.
- Sustained, continuous, flexible logistics operations–tailored for optimum support–from the source of supply to the point of need.
- High-speed, mobile capabilities that can be rapidly deployed, recovered, and redeployed to provide timely delivery of supplies and services to, from, and within the operations area regardless of the theater infrastructure situation.
- The capability for rapid and accurate logistics assessment and analysis, precise asset visibility–location, identification, status and reporting.

the ability to selectively hold at risk an enemy's space capability enable us to vigorously protect our vital space capabilities.

Focused Logistics

Space Support to Focused Logistics

Space-based satellite communications, navigation, surveillance, weather and earth resource monitoring data provide the required battlespace awareness to deliver responsive and tailored logistical packages directly to the point of need. Deployment and replenishment of space-based assets on orbit will become more cost-effective, and responsive to a theater commander's needs, as future launch systems and satellite operations capabilities are deployed.

"The capability to collect, process, and disseminate an uninterrupted flow of information while exploiting or denying an adversary's ability to do the same"

Joint Vision 2010

The *Concept for Future Joint Operations* states: "The battle space information system will be "born joint" and comprised of a set of interconnected communications and sensor grids, software applications and organizational structures that will provide:

- A redundant, seamless network of cross-Service and interagency links.
- Secure, and responsive information available to the right user when needed.
- Accurate and timely intelligence about enemy locations and activities.
- A comprehensive catalogue of, and access to, networked databases relating to the operations area and adversary capabilities.
- Accurate, real-time friendly locations and combat status.
- The capability for sustained split-based operations from force projection locations throughout the battlespace.
- Near real time processing of information to allow for a common "picture" of the battlespace.
- Built-in self-protection capabilities.
- Multilevel security access to allow interagency sharing of information, as well as

Information Superiority

Space Support to Information Superiority

Space-based capabilities (collecting, generating and transmitting) are critical to the uninterrupted flow of information throughout the battlespace. The protection of US space capabilities and the denial of the enemy's use of space are integral to information superiority. Space-based satellite communications, navigation, surveillance, weather and earth resource monitoring data provide significant contributions to dominant battlefield awareness and a common operating picture of the battlefield.

Space power is key to achieving *Joint Vision 2010.* The stronger the linkage between *Joint Vision 2010* and the USSPACECOM Vision, the more likely our nation will organize train and equip the right space force for the future.

USSPACECOM VISION FOR 2020

*US Space Command—**dominating** the space dimension of military operations to protect US interests and investment. **Integrating** Space Forces into warfighting capabilities across the full spectrum of conflict.*

Today, the United States is the preeminent military power in space. USSPACECOM's Vision for 2020, when attained, will ensure that preeminence–providing a solid foundation for securing our future national security in space (Figure 2-2).

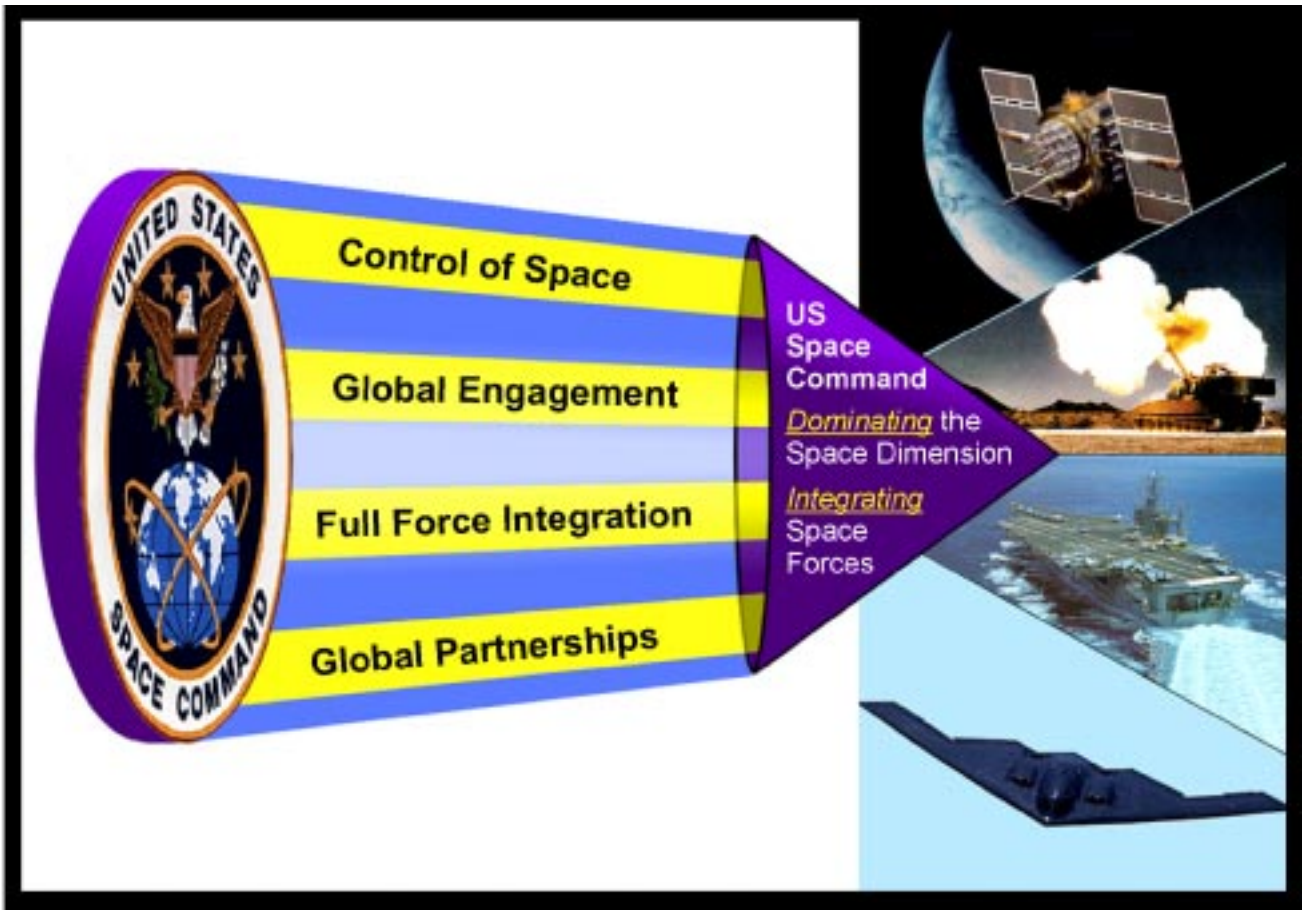

Figure 2-2 Operational Concepts for USSPACECOM's Vision 2020

To move towards attaining the USSPACECOM Vision for 2020, we developed four operational concepts from an examination of the Unified Command Plan's assigned missions, the *Joint Vision 2010* operational concepts and the anticipated strategic environment.

Control of Space

Control of Space (CoS) is the ability to ensure un-interrupted access to space for US forces and our allies, freedom of operations within the space medium and an ability to deny others the use of space, if required. The ability to gain and maintain space superiority will become critical to the joint campaign plan. With uninterrupted access to space, the United States can launch and reconstitute satellite constellations as required without impediment from our adversaries. Just as dominant battlefield awareness (DBA) is critical to the

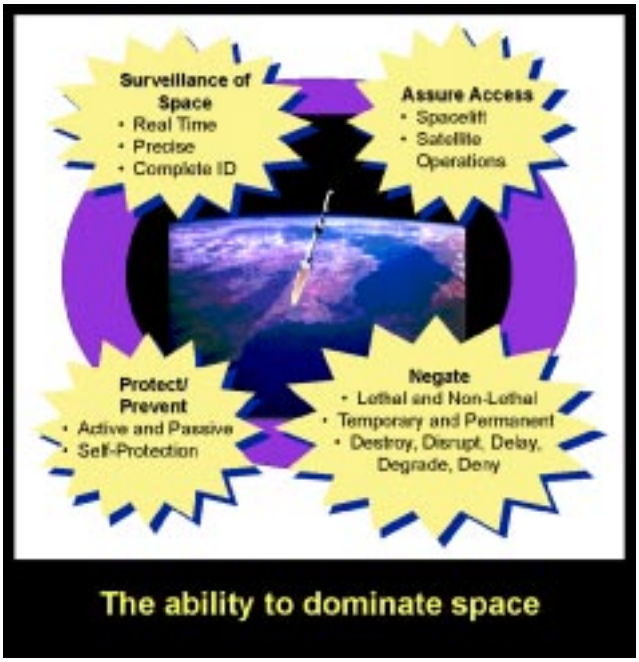

Figure 2-3 Control of Space

success of land, sea, and air forces, space surveillance will help us achieve DBA of space. As the US military relies more on space, our vulnerability also increases, so we must protect our space assets and be able to deny other nations from gaining an advantage through their space systems.

Global Engagement

Global Engagement (GE) is the combination of global surveillance of the Earth (see anything, anytime), worldwide missile defense, and the potential ability to apply force from space. GE addresses increasing ballistic and cruise missile threats, the need for force application, and the need for effective forward presence with reduced forward basing. By 2020, a second generation system for National Missile Defense is expected to be in place–with many of the weapons and sensors

Figure 2-4 Global Engagement

potentially moving into space. Surveillance and strike missions for land, sea, and air will improve using space systems. For example, a force application system based in space could be available for strategic attack, and space-based surveillance may augment systems on land and in the air. At present, the notion of weapons in space is not consistent with US national policy. Planning for the possibility is a purpose of this plan should our civilian leadership decide that

Figure 2-5 Full Force Integration

the application of force from space is in our national interest.

Full Force Integration

Full Force Integration (FFI) seamlessly joins space-derived information and space forces with information and forces from the land, sea, and

air. Space power will be instrumental in getting the right military capability to the right forces, at the right time. Space forces must integrate with all our fighting forces–from the Joint Task Force's headquarters down to warfighters in the land, sea, and air components. Innovative organizations and operational concepts, tailored flows of information, and trained, dedicated professionals are all keys to FFI.

Global Partnerships

Global Partnerships (GP) augment the military's space capabilities by leveraging civil, commercial, and international space systems. This operational concept results from the explosive growth of commercial and international space capabilities. The United States can use these systems to bolster–and decrease the cost of–military capabilities; they will also increase battlespace awareness and information connectivity. GP can improve stability, offer mutual advantages to all partners and increase flexibility for the United States. Partnerships make possible shared costs, shared risks, and increased opportunities.

Figure 2-6 Global Partnerships

CONCLUSION

As we move onto the 21st Century, space forces will continue to provide support from space, but will also begin to conduct space operations. The emerging synergy of space superiority–equal to land sea, and air superiority–will enable us to achieve Full Spectrum Dominance.

Note: For more information on USSPACECOM's Vision for 2020, see www.spacecom.af.mil/usspace.